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Scientific and Technical Information Center

Access DB#

NOV 15 2001

54951

Requester's Full Name: Jeffrey E. Russel Examiner #: 62785 Date: 11-15-2001
 Art Unit: 1653 Phone Number 301-83975 Serial Number: 09/623506
 Mail Box and Bldg/Room Location: CM1-7B01/CM1-7B07 Results Format Preferred (circle) PAPER ~~DISK~~ ~~E-MAIL~~

If more than one search is submitted, please prioritize searches in order of need.

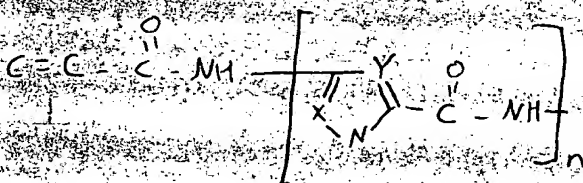
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Acryloyl Derivatives Analogous To Disulfamycin, And Their Use As Antitumor Agents
 Inventors (please provide full names): F. Gozzi, P. Borelli, J. Berio, M. Caldarrelli, L. Capolongo, R. Longoni

Earliest Priority Filing Date: 9-19-2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the following partial structure:



where X = N and Y = CH, or X = CH and Y = N.

Please search for n=1. If there are too many hits please narrow by requiring n=2.

Keywords are cancer, antitumor, tumor, antineoplastic, carcinoma

Thank you.
 JEL

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Searcher: <u>Skippard</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: <u>308-4499</u>	NA Sequence (#) _____	STN _____
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) _____	Questel/Orbit _____
Date Completed: <u>11/16/01</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: _____	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: _____	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

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FILE COVERS 1947 - 16 Nov 2001 VOL 135 ISS 22

FILE LAST UPDATED: 15 Nov 2001 (20011115/ED)

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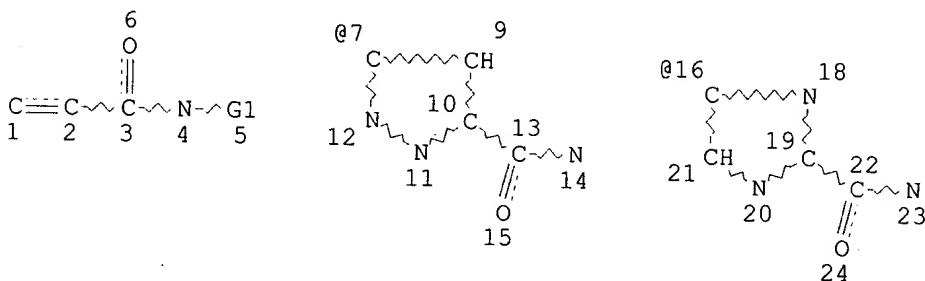
HCAplus now provides online access to patents and literature covered in CA from 1947 to the present. On April 22, 2001, bibliographic information and abstracts were added for over 2.2 million references published in CA from 1947 to 1966.

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L1 STR



VAR G1=7/16

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L3 97 SEA FILE=REGISTRY SSS FUL L1

L4 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L3

L5 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 AND (?CANCER? OR ?TUMOR? OR ?TUMOUR? OR ?NEOPLAS? OR ?MALIG?)

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L5 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:425860 HCAPLUS

DOCUMENT NUMBER: 133:232356

TITLE: Synthesis and **Antitumor** Activity of New

Benzoheterocyclic Derivatives of Distamycin A

AUTHOR(S): Baraldi, Pier Giovanni; Romagnoli, Romeo; Beria, Italo; Cozzi, Paolo; Geroni, Cristina; Mongelli, Nicola; Bianchi, Nicoletta; Mischiati, Carlo; Gambari, Roberto

CORPORATE SOURCE: Dipartimento di Scienze Farmaceutiche and Dipartimento di Biochimica e Biologia Molecolare, Universita di Ferrara, Ferrara, 44100, Italy

SOURCE: J. Med. Chem. (2000), 43(14), 2675-2684

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:232356

AB The design, synthesis, and in vivo and in vitro antileukemic activity of a novel series of compds. in which different benzoheterocyclic rings, bearing a nitrogen mustard or a benzoyl nitrogen mustard or an .alpha.-bromoacryloyl group as alkylating moieties, are tethered to a distamycin frame are reported, and structure-activity relationships are discussed. The new derivs. were prepd. by coupling nitrogen mustard-substituted, benzoyl nitrogen mustard-substituted, or .alpha.-bromoacryloyl-substituted benzoheterocyclic carboxylic acids with desformyldistamycin or in one case with its two-pyrrole analog. With very few exceptions, the activities of compds. bearing the same alkylating moiety are slightly affected by the kind of the heteroatom present on the benzoheterocyclic ring. All novel compds., with one exception, showed in vitro activity against L1210 murine leukemia cell line comparable to or better than that of tallimustine. The compds. in which the nitrogen mustard and the .alpha.-bromoacryloyl moieties are directly linked to benzoheterocyclic ring showed potent cytotoxic activities (IC50 ranging from 2 to 14 nM), while benzoyl nitrogen mustard derivs. of benzoheterocycles showed reduced cytotoxic activities, and one compd. of this cluster was the sole deriv. devoid of significant activity. A 5-nitrogen mustard N-methylindole deriv. of distamycin, showed the best antileukemic activity in vivo, with a very long survival time (%T/C = 457), significantly increased in comparison to tallimustine (%T/C = 133), and was selected for further extensive evaluation. Arrested polymerase chain reaction and direct DNA fragmentation assays were performed for the 5-nitrogen mustard N-methylindole deriv. of distamycin and structurally related compds. The results obtained have shown that both alkylating groups and oligopeptide frames play a crucial role in the sequence selectivity of these compds.

IT 177409-55-1 177409-56-2

RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

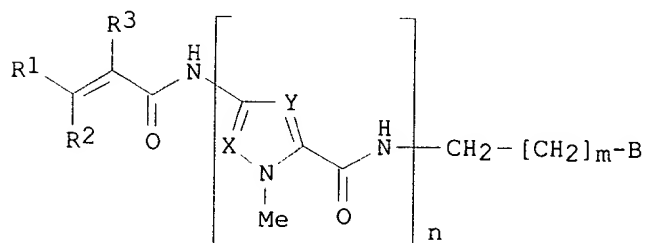
(synthesis and **antitumor** activity of new benzoheterocyclic derivs. of distamycin A in relation to structure and DNA sequence selectivity of alkylating groups)

REFERENCE COUNT: 34
 REFERENCE(S): (2) Arcamone, F; Gazz Chim Ital 1967, V97, P1097 HCAPLUS
 (3) Arcamone, F; J Med Chem 1989, V32, P774 HCAPLUS
 (5) Baraldi, P; Biorg Med Chem Lett 1996, V6, P1241 HCAPLUS
 (6) Baraldi, P; Curr Pharm Des 1998, V4, P249 HCAPLUS
 (7) Bianchi, N; J Steriod Biochem Mol Biol 1995, V54, P211 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1999:640855 HCAPLUS
 DOCUMENT NUMBER: 131:257879
 TITLE: Preparation of distamycin acryloyl derivatives as antitumor agents
 INVENTOR(S): Cozzi, Paolo; Baraldi, Pier Giovanni; Beria, Italo; Caldarelli, Marina; Capolongo, Laura; Romagnoli, Romeo
 PATENT ASSIGNEE(S): Pharmacia & Upjohn S.p.A., Italy
 SOURCE: PCT Int. Appl., 64 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9950265	A1	19991007	WO 1999-EP1822	19990317
W:	AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9934154	A1	19991018	AU 1999-34154	19990317
EP 1064280	A1	20010103	EP 1999-915664	19990317
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			

PRIORITY APPLN. INFO.: GB 1998-6689 A 19980327
 WO 1999-EP1822 W 19990317
 OTHER SOURCE(S): MARPAT 131:257879
 GI



AB Distamycin acryloyl derivs. I [n = 2-4; m = 1 or 2; X, Y = N or CH,

selected independently for each heterocyclic ring; R1, R2 = H, halo, alkyl; R3 = H, halo; B = C(NH2):NCN, C(NR4R5):NR6, C(NH2):NNH2, CONR7R8, NHC(NH2):NR9, NR10R11, C(NH2):NOR12, CN; R4-8 and R10-12 are H or alkyl and R9 is H or OH] or their pharmaceutically acceptable salts were prepd. as **antitumor** agents. Thus, treatment of cyanamide with NaH in DMF, followed by addn. of distamycin A and hydrolysis of the formyl group with aq. HCl afforded an amino deriv., which was treated with 1-methyl-3-(.alpha.-bromoacrylamido)pyrrole-5-carbonyl chloride (prepn. given) to give I [n = 4, m = 1, X = Y = CH, R1 = R2 = H, R3 = Br, B = C(NH2):NCN].

IT 177409-55-1

RL: RCT (Reactant)

(prepn. of distamycin acryloyl derivs. as **antitumor** agents)

IT 245046-46-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. of distamycin acryloyl derivs. as **antitumor** agents)

IT 245045-54-9P 245045-55-0P 245045-56-1P

245045-58-3P 245045-59-4P 245045-60-7P

245045-61-8P 245045-62-9P 245045-63-0P

245045-64-1P 245045-65-2P 245045-66-3P

245045-67-4P 245045-68-5P 245045-69-6P

245045-70-9P 245045-71-0P 245045-72-1P

245045-73-2P 245045-74-3P 245045-76-5P

245045-77-6P 245045-78-7P 245045-79-8P

245045-80-1P 245045-81-2P 245045-82-3P

245045-83-4P 245045-84-5P 245045-85-6P

245045-86-7P 245045-87-8P 245045-88-9P

245045-89-0P 245045-90-3P 245045-91-4P

245045-93-6P 245045-94-7P 245045-95-8P

245045-96-9P 245045-97-0P 245045-98-1P

245045-99-2P 245046-00-8P 245046-01-9P

245046-10-0P 245046-12-2P 245046-13-3P

245046-14-4P 245046-15-5P 245046-16-6P

245046-17-7P 245046-18-8P 245046-19-9P

245046-20-2P 245046-21-3P 245046-22-4P

245046-23-5P 245046-24-6P 245046-25-7P

245046-26-8P 245046-27-9P 245046-28-0P

245046-29-1P 245046-30-4P 245046-31-5P

245046-32-6P 245046-34-8P 245046-35-9P

245046-36-0P 245046-37-1P 245046-38-2P

245046-42-8P 245046-44-0P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of distamycin acryloyl derivs. as **antitumor** agents)

REFERENCE COUNT:

4

REFERENCE(S):

- (1) Marina, C; WO 9804524 A 1998 HCAPLUS
- (2) Pharmacia Spa; WO 9605196 A 1996 HCAPLUS
- (3) Pharmacia & Upjohn Spa; WO 9743258 A 1997 HCAPLUS
- (4) Synphar Lab Inc; WO 9504732 A 1995 HCAPLUS

L5 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2001 ACS

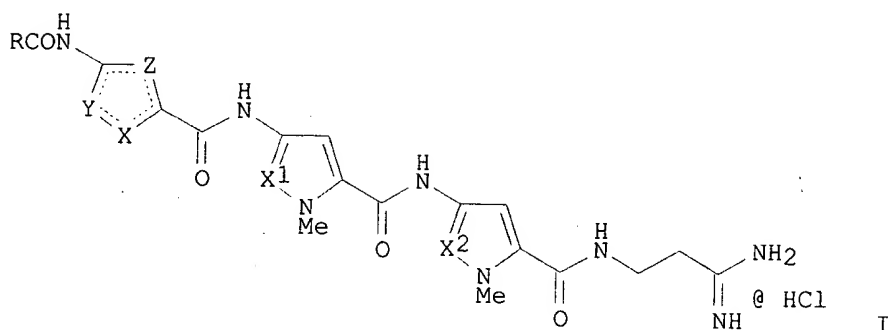
ACCESSION NUMBER: 1996:368758 HCAPLUS

DOCUMENT NUMBER: 125:143281

TITLE: Structure-activity relationship of novel tallimustine derivatives: synthesis and **antitumor** activity

AUTHOR(S): Baraldi, Pier Giovanni; Beria, Italo; Cacciari, Barbara; Coplongo, Laura; Cozzi, Paolo; Nogelli, Nicola; Romagnoli, Romeo; Spalluto, Giampiero

CORPORATE SOURCE: Dip. Sci. Farm., Univ. Ferrara, Ferrara, 44100, Italy
 SOURCE: Bioorg. Med. Chem. Lett. (1996), 6(11), 1247-1252
 CODEN: BMCLE8; ISSN: 0960-894X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Oligopeptide-like derivs. I [R = 4-(ClCH₂CH₂)₂NC₆H₄, CH₂:CBr; X = NMe, X = X1 = X2 = N, Y = Z = CH; X = X1 = CH, X2 = N, CH, Y = S, Z = N; X = NMe, X1 = Y = Z = CH, X2 = N, CH], structurally related to the **antitumor** agent tallimustine, where one or two pyrrole rings were replaced by pyrazole or thiazole rings and bearing benzoyl nitrogen mustard or bromoacryloyl moieties were synthesized and evaluated in vitro and in vivo against L1210 murine leukemia. Compds. I [R = 4-(ClCH₂CH₂)₂NC₆H₄; X = NMe; X1 = N, CH; Y = Z = CH; X2 = N] showed **antitumor** activity higher than or comparable with that of tallimustine.

IT 177409-54-0P

RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (prepn. and **antitumor** structure-activity relationships of tallimustine azole derivs.)

L5 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:368757 HCAPLUS

DOCUMENT NUMBER: 125:143280

TITLE: Synthesis and **antitumor** activity of novel distamycin derivatives

AUTHOR(S): Baraldi, Pier Giovanni; Beria, Italo; Cacciari, Barbara; Cozzi, Paolo; Franzetti, Cristina; Mongelli, Nicola; Romagnoli, Romeo; Spalluto, Giampiero

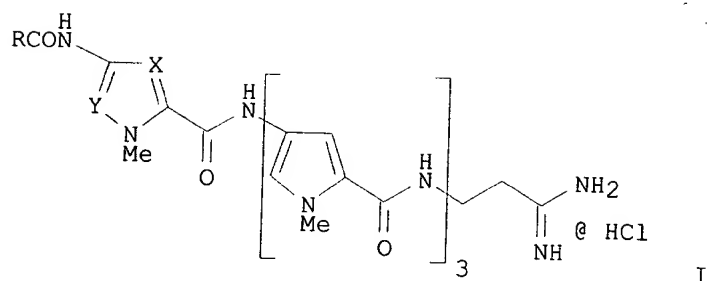
CORPORATE SOURCE: Dip. Sci. Farm., Univ. Ferrara, Ferrara, 44100, Italy
 SOURCE: Bioorg. Med. Chem. Lett. (1996), 6(11), 1241-1246

CODEN: BMCLE8; ISSN: 0960-894X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Several distamycin derivs. I [Y = N, X = CH; Y = CH, X = N; R = 4-(ClCH₂CH₂)₂NC₆H₄, CH₂:CBr] were synthesized from deformyldistamycin by coupling with different azolecarboxylic acids bearing an alkylating moiety. Some of them showed good activities in vitro and in vivo against L 1210 murine leukemia.

IT **177409-55-1P 177409-56-2P**

RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and **antitumor** activity of novel distamycin derivs.)

L5 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:342035 HCAPLUS

DOCUMENT NUMBER: 125:10484

TITLE: Distamycin A analogs as **antitumor** or antiviral agents

INVENTOR(S): Beria, Italo; Pesenti, Enrico; Capolongo, Laura; Mongelli, Nicola; Baraldi, Piergiorgio

PATENT ASSIGNEE(S): Pharmacia S.P.A., Italy

SOURCE: PCT Int. Appl., 96 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9605196	A1	19960222	WO 1995-EP2814	19950718
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, US, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2172629	AA	19960222	CA 1995-2172629	19950718
AU 9531136	A1	19960307	AU 1995-31136	19950718
AU 689623	B2	19980402		
EP 722446	A1	19960724	EP 1995-926927	19950718
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, NL, PT, SE				
CN 1131946	A	19960925	CN 1995-190742	19950718
JP 09504039	T2	19970422	JP 1995-506945	19950718
HU 76267	A2	19970728	HU 1996-1218	19950718
ZA 9506590	A	19960318	ZA 1995-6590	19950807
US 5753629	A	19980519	US 1996-612836	19960318
NO 9601377	A	19960530	NO 1996-1377	19960403
FI 9601506	A	19960605	FI 1996-1506	19960403

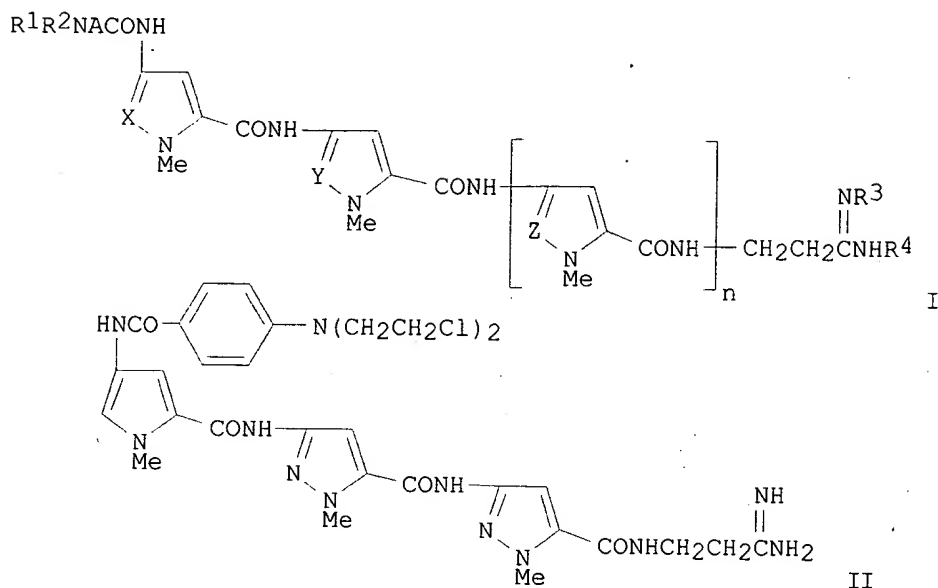
PRIORITY APPLN. INFO.:

GB 1994-16005
WO 1995-EP2814

19940808
19950718

OTHER SOURCE(S):
GI

MARPAT 125:10484



AB Title compds. I [$n = 0, 1$; X, Y, Z = N, CH; A = (un)substituted 5-membered heterocycle; R¹, R² = alkyl, haloalkyl, hydroxyalkyl, H, aziridinylalkylcarbonyl, cyclopropylalkylcarbonyl, alkenyl, haloalkenyl, (un)substituted oxiranyl, (un)substituted aminophenyl; R³, R⁴ = H; R³R⁴ = CH₂CH₂, (CH₂)₃, CH:CH] and their pharmaceutically acceptable salt were prepd. Thus, the pyrrole deriv. II was obtained by treating the nitropyrrolicarboxylic acid fragment with the pyrazolecarboxamidopyrazolecarboxamidopropionitrile, converting the nitrile to the amidine, reducing the nitro group, and acylating. II had an ID₅₀ against L1210 murine leukemia in vitro of 0.5 $\mu\text{g/mL}$.

IT 177409-54-0P 177409-55-1P 177409-56-2P
177409-77-7P 177409-82-4P 177409-83-5P
177409-84-6P 177409-86-8P 177409-87-9P
177409-88-0P 177409-99-3P 177410-01-4P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of distamycin analogs as **neoplasm** inhibitors)

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L6 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2001:327062 HCAPLUS
 DOCUMENT NUMBER: 135:102536
 TITLE: Sequence-specific DNA interstrand cross-linking by
 imidazole-pyrrole CPI conjugate
 AUTHOR(S): Bando, Toshikazu; Iida, Hirokazu; Saito, Isao;
 Sugiyama, Hiroshi
 CORPORATE SOURCE: CREST Japan Science and Technology Corporation (JST)
 Japan Division of Biofunctional Molecules Institute of
 Biomaterials and Bioengineering Tokyo Medical and
 Dental University, Kanda Chiyoda Tokyo, 101-0062,
 Japan
 SOURCE: J. Am. Chem. Soc. (2001), 123(21), 5158-5159
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB DNA interstrand crosslinking inhibits both DNA replication and gene
 expression and therefore has considerable potential for mol. biol. and
 human medicine. However, an interstrand crosslinking agent that targets a
 predetd. base-pair sequence has not been achieved. Minor-groove binding
 polyamides that contain N-methylimidazole (Im)-N-methylpyrrole
 (Py)hydroxypyrrole (Hp), which uniquely recognize each of the four
 Watson-Crick base pairs, can be used as novel recognition parts of
 sequence-specific DNA alkylating agents. We also demonstrated that Im/Py
 diamide-CPI conjugate with a vinyl linker, ImPyLDu86, alkylates
 double-stranded DNA at predetd. sequences through highly cooperative
 homodimer formation. Herein we describe the synthesis of a covalent dimer
 of ImPyLDu86 connected with various linkers and their DNA interstrand
 crosslinking abilities. In conclusion, we developed a novel DNA
 interstrand crosslinking agent, that crosslinked double strands only in
 the presence of ImImPy at a nine-base-pair sequence, 5'-PyGGC(T/A)GCCPu-
 3'. The present system will provide a promising approach for the design
 of novel sequence-specific DNA interstrand crosslinking agents. Targeting
 specific sequences in the human genome by such sequence-specific
 crosslinking agent would constitute a powerful gene-regulating tool.
 Further studies on the applicability of this novel class of crosslinking
 agents are currently in progress.

IT 349647-79-6

RL: BAC (Biological activity or effector, except adverse); BIOL
 (Biological study)
 (sequence-specific DNA interstrand crosslinking by imidazole-pyrrole
 CPI conjugate)

REFERENCE COUNT: 28

REFERENCE(S): (1) Boger, D; Angew Chem, Int Ed Engl 1996, V35, P1438
 HCAPLUS
 (2) Boger, D; Bioorg Med Chem 1995, V3, P1429 HCAPLUS
 (3) Boger, D; J Am Chem Soc 1997, V119, P311 HCAPLUS
 (4) Boger, D; J Org Chem 1990, V55, P4499 HCAPLUS
 (5) Chang, A; J Am Chem Soc 2000, V122, P4856 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2001:28188 HCAPLUS
 DOCUMENT NUMBER: 134:207755
 TITLE: A General Solution- and Solid-Phase Synthetic

Procedure for Incorporating Three Contiguous Imidazole Moieties into DNA Sequence Reading Polyamides
 AUTHOR(S): Sharma, Sanjay K.; Tandon, Manju; Lown, J. William
 CORPORATE SOURCE: Department of Chemistry, University of Alberta, Edmonton, AB, T6G 2G2, Can.
 SOURCE: J. Org. Chem. (2001), 66(3), 1030-1034
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The authors report a general protocol for the synthesis of imidazole polyamides which could recognize extended GC sequences of DNA with very high affinity. They have linked the three imidazole units by both flexible and rigid linkers. Cellular uptake of products was improved (no data) by adding a natural amidinium end group, introduced by a modified Pinner reaction. To overcome problems of product soly. found with increasing imidazole content, a solid-phase method was developed for a triimidazole-polyamide precursor, resulting in a combined soln./solid-phase method.

IT 329039-02-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of DNA sequence reading polyamides contg. three contiguous imidazole moieties via soln. or solid-phase chem.)

IT 329038-97-3P 329039-05-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of DNA sequence reading polyamides contg. three contiguous imidazole moieties via soln. or solid-phase chem.)

REFERENCE COUNT: 48

REFERENCE(S): (1) Al-Said, N; Synthetic Commun 1995, V25, P1059 HCAPLUS
 (2) Al-Said, N; Tetrahedron Lett 1994, V35, P7577 HCAPLUS
 (3) Arcamone, F; Gazz Chim Ital 1967, V97, P1097 HCAPLUS
 (4) Baird, E; J Am Chem Soc 1996, V118, P6141 HCAPLUS
 (5) Chen, Y; J Am Chem Soc 1994, V116, P6995 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:398441 HCAPLUS

DOCUMENT NUMBER: 133:177479

TITLE: Synthesis of geometrically constrained unsymmetrical bis(polyamides) related to the antiviral distamycin

AUTHOR(S): Sharma, Sanjay K.; Tandon, Manju; Lown, J. William

CORPORATE SOURCE: Department of Chemistry, University of Alberta, Edmonton, AB, T6G 2G2, Can.

SOURCE: Eur. J. Org. Chem. (2000), (11), 2095-2103

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:177479

AB Anal. of the structural and stereochem. requirements for the strict DNA base-sequence recognition of (AT)4 and (AT)5, resp., for the oligopeptide minor-groove binding agents netropsin and distamycin leads to proposals for the rational structure modification for altered base recognition. In this paper we report the synthesis of unsym. imidazo-pyrrolo-bis(polyamides), structurally related to the natural antiviral agents distamycin, and bearing either unnatural (25-27) or natural (31-33)

termini linked by a flexible or rigid linker. This is the first report of the synthesis of an imidazole-bearing structure with either (dimethylamino)propyl or amidinium termini in the linked bis(polyamides).

IT 288623-85-8P 288623-92-7P 288624-03-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of geometrically constrained unsym. bis(polyamides) related to distamycin)

IT 288623-99-4P 288624-06-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of geometrically constrained unsym. bis(polyamides) related to distamycin)

REFERENCE COUNT:

24

REFERENCE(S):

- (1) Al-Said, N; Synth Commun 1995, V25, P1059 HCAPLUS
 - (2) Arcamone, F; Gazz Chim Ital 1967, V97, P1097 HCAPLUS
 - (4) Bryson, T; J Org Chem 1974, V39, P1158 HCAPLUS
 - (6) Gmeiner, W; J Biomol Struct Dyn 1999, V17, P507 HCAPLUS
 - (7) Hass, H; J Am Chem Soc 1949, V71, P1767 HCAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1992:512029 HCAPLUS

DOCUMENT NUMBER: 117:112029

TITLE: Anti-HIV-I activity of linked lexitropsins

AUTHOR(S): Wang, Wuyi; Lown, J. William

CORPORATE SOURCE: Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.

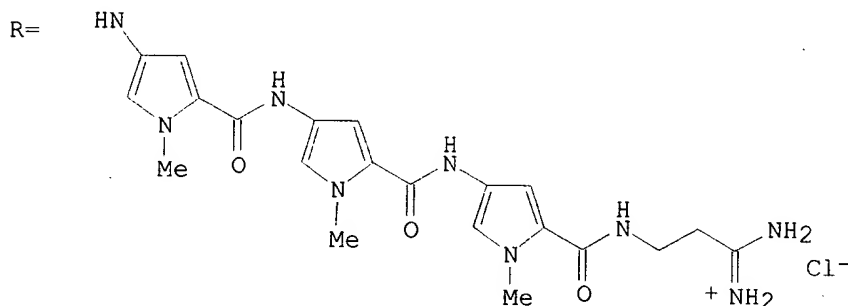
SOURCE: J. Med. Chem. (1992), 35(15), 2890-7

CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Five groups of lexitropsin oligopeptides, e.g. RCO(CH₂)_nCOR (n = 2, 6, 8, 22), have been synthesized that are structurally related to the natural antiviral agents netropsin and distamycin and bearing two such moieties joined by flexible or rigid linkers. Inhibitory activity of these types of agents against murine leukemia retrovirus (MuLV) led to an evaluation of their inhibition of HIV-I in cell culture. The antiretroviral activity of the five different classes of lexitropsins is discussed in terms of their structural differences.

IT 142482-49-3P

RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and antiviral activity of, against murine leukemia retrovirus)

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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STRUCTURE FILE UPDATES: 14 NOV 2001 HIGHEST RN 370064-54-3
DICTIONARY FILE UPDATES: 14 NOV 2001 HIGHEST RN 370064-54-3

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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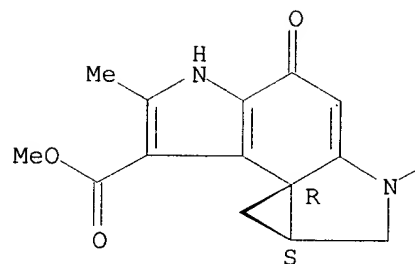
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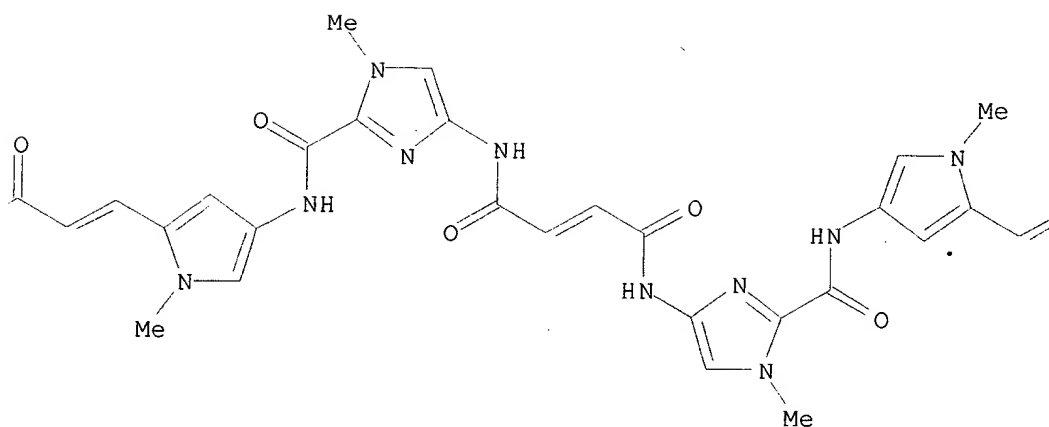
L3 ANSWER 1 OF 97 REGISTRY COPYRIGHT 2001 ACS
 RN 349647-79-6 REGISTRY
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 FS STEREOSEARCH
 MF C58 H54 N14 O12
 SR CA
 LC STN Files: CA, CAPLUS, TOXLIT

Absolute stereochemistry.
 Double bond geometry unknown.

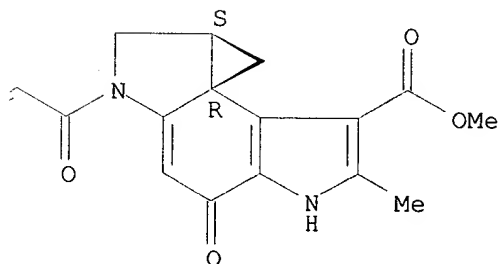
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PAGE 1-C



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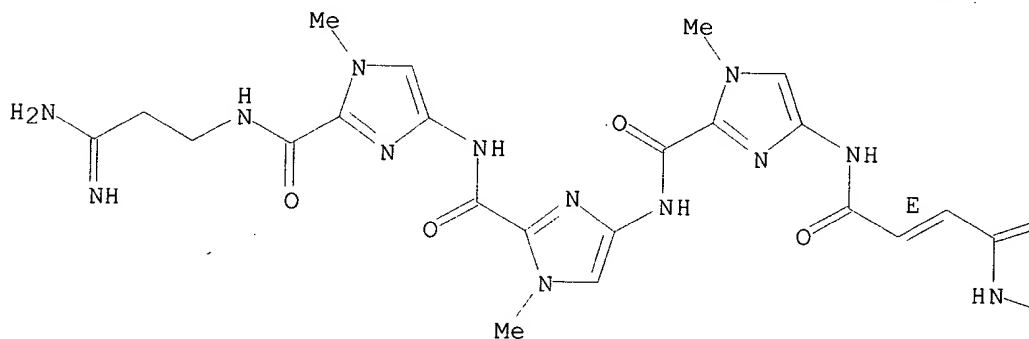
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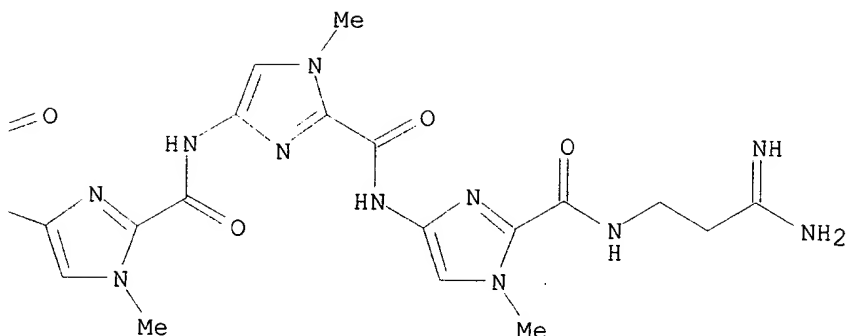
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RN 329039-05-6 REGISTRY
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iminopropyl)amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-
methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-,
dihydrochloride, (2E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H48 N24 O8 . 2 Cl H
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.

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● 2 HCl

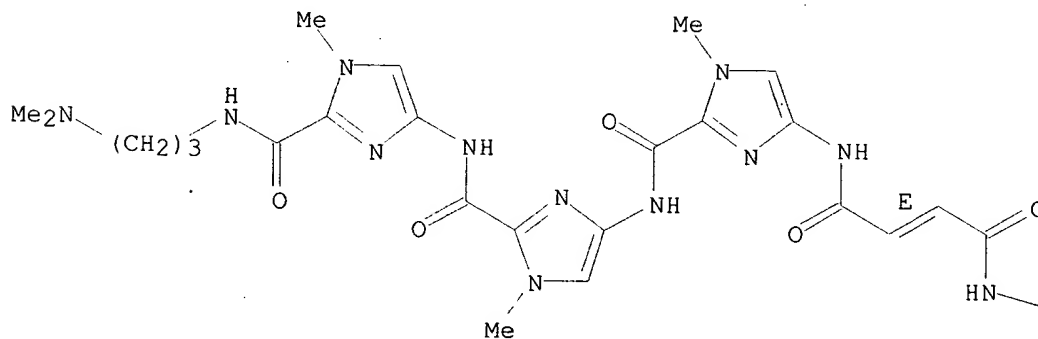


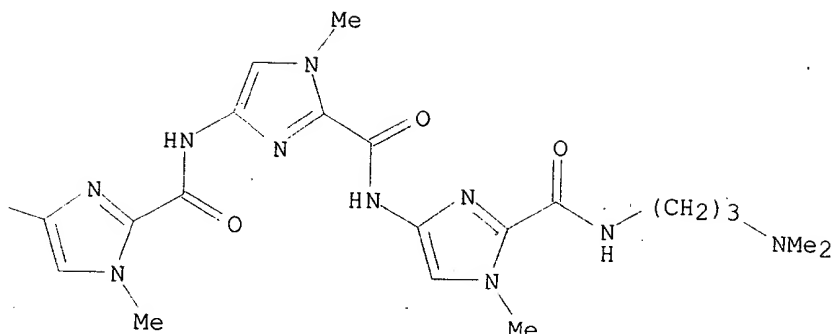
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REFERENCE 1: 134:207755

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RN 329038-97-3 REGISTRY
CN 2-Butenediamide, N,N'-bis[2-[[[2-[[[2-[[[3-(dimethylamino)propyl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-, (2E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C44 H58 N22 O8
SR CA
LC STN Files: CA, CAPLUS

Double bond geometry as shown.





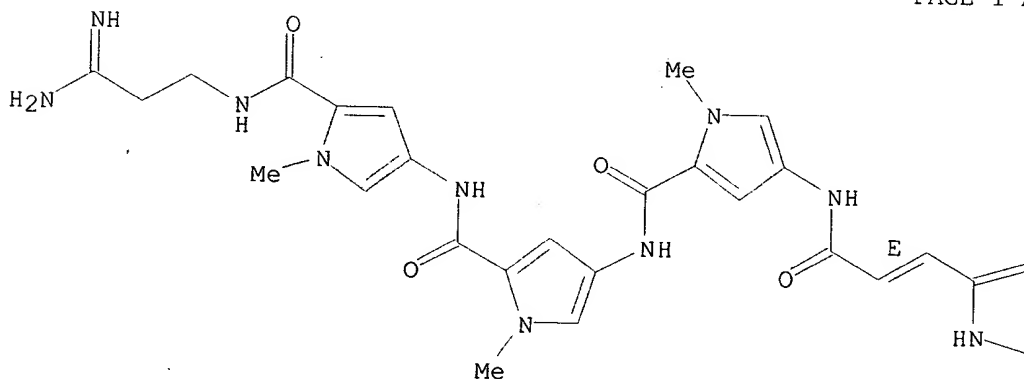
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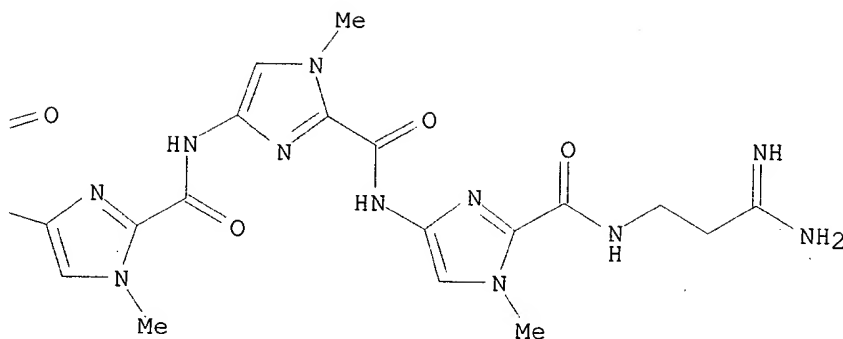
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FS STEREOSEARCH
MF C43 H51 N21 O8
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Double bond geometry as shown.





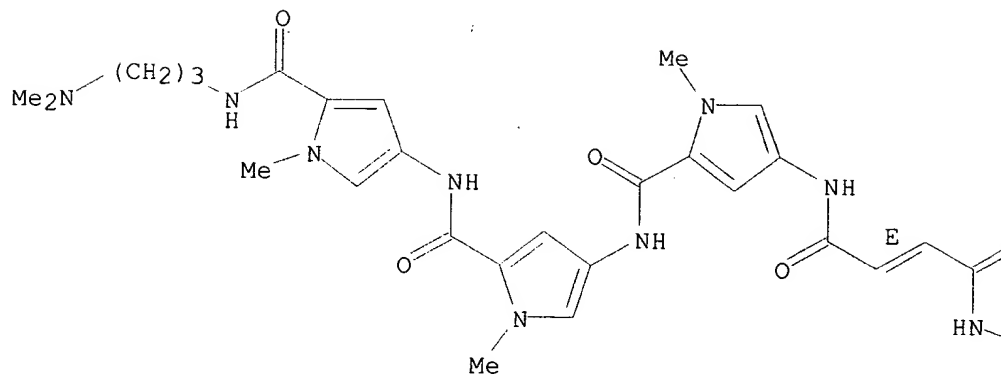
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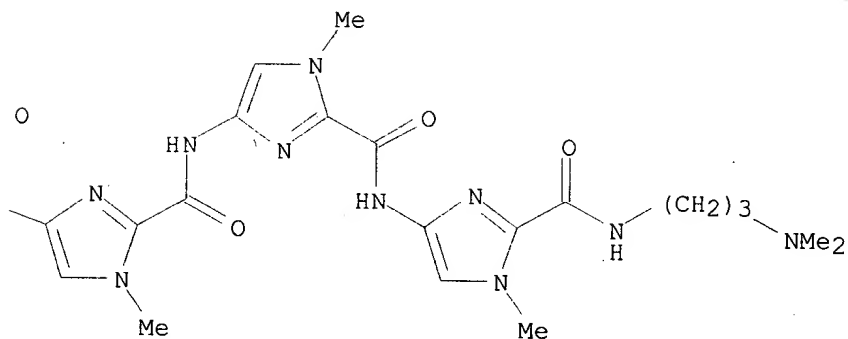
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FS STEREOSEARCH
MF C47 H61 N19 O8
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Double bond geometry as shown.

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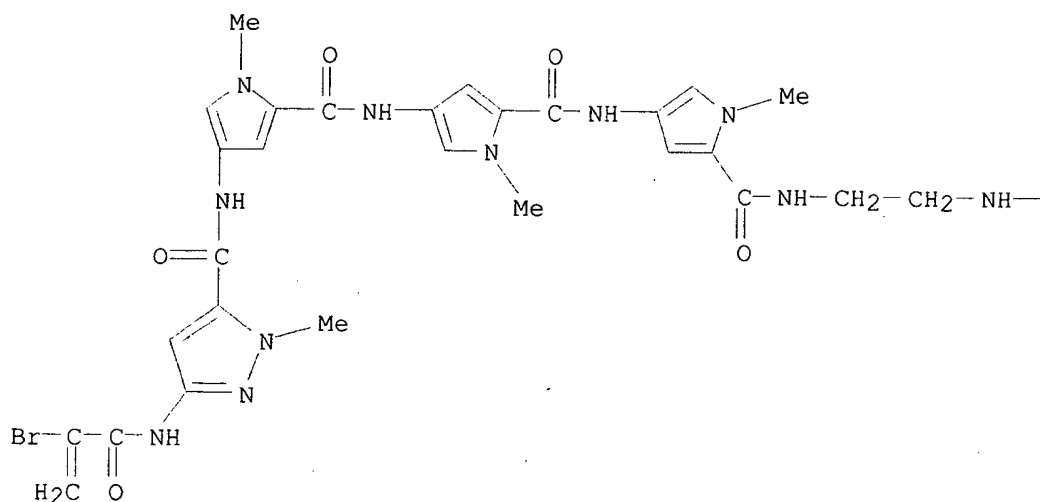


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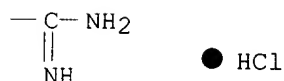
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pyrrol-3-yl]-3-[(2-bromo-1-oxo-2-propenyl)amino]-1-methyl-,
monohydrochloride (9CI) (CA INDEX NAME)
MF C29 H34 Br N13 O5 . Cl H
SR CA
LC STN Files: CA, CAPLUS
CRN (245045-63-0)

PAGE 1-A



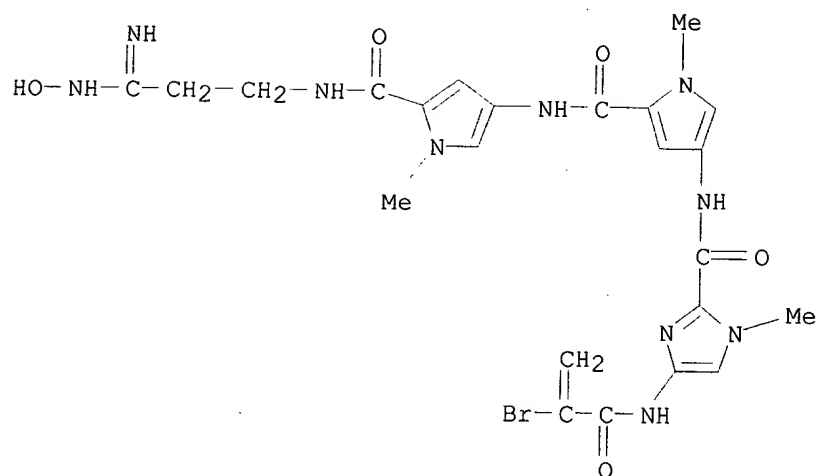
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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 15 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245046-36-0 REGISTRY
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[[[3-(hydroxyamino)-3-iminopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-
yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (9CI) (CA INDEX
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SR CA
LC STN Files: CA, CAPLUS

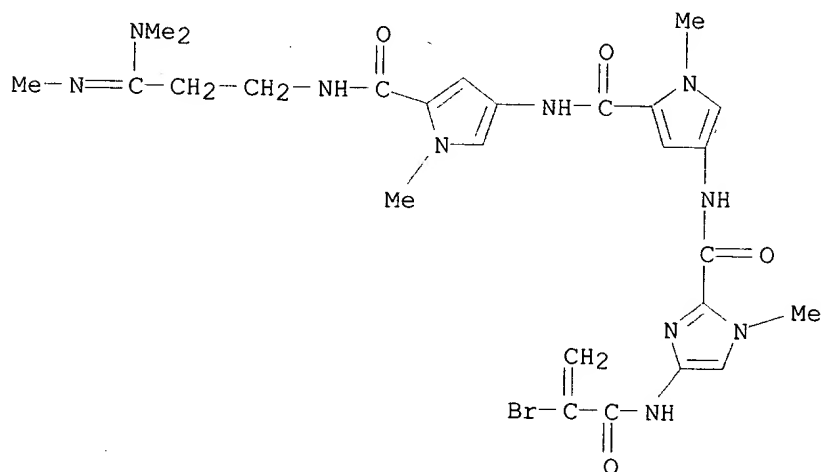


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REFERENCE 1: 131:257879

L3 ANSWER 20 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245046-30-4 REGISTRY
CN 1H-Imidazole-2-carboxamide, 4-[(2-bromo-1-oxo-2-propenyl)amino]-N-[5-[[[5-[[[3-(dimethylamino)-3-(methylimino)propyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (9CI) (CA INDEX NAME)
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SR CA
LC STN Files: CA, CAPLUS

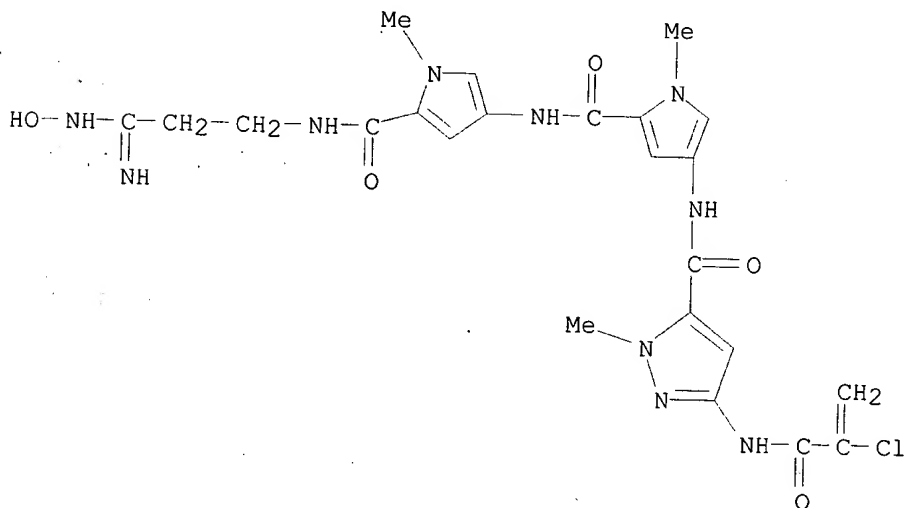


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REFERENCE 1: 131:257879

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yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (9CI) (CA INDEX
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FS 3D CONCORD
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SR CA
LC STN Files: CA, CAPLUS



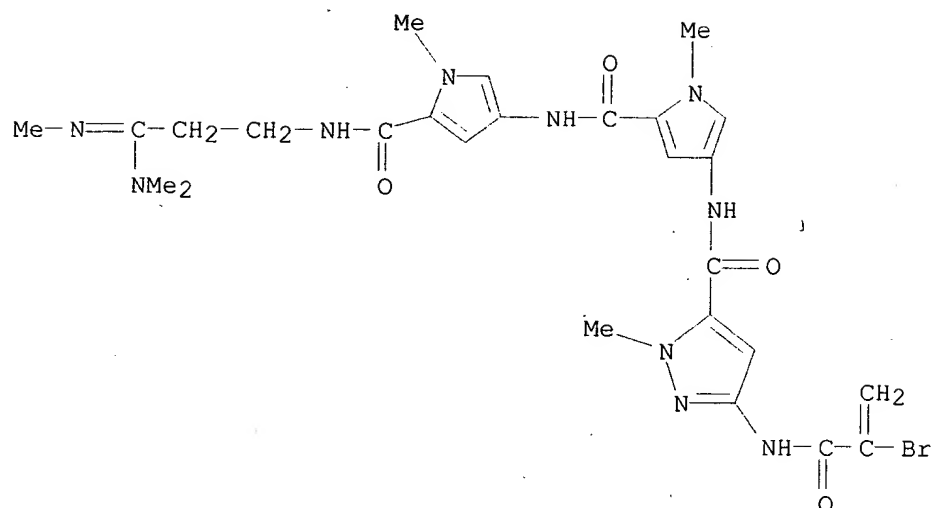
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INDEX NAME)
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SR CA

LC STN Files: CA, CAPLUS



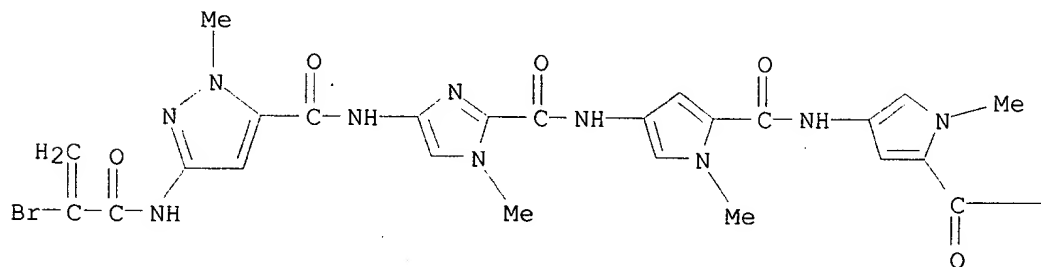
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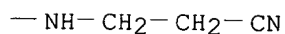
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MF C28 H29 Br N12 O5
SR CA
LC STN Files: CA, CAPLUS

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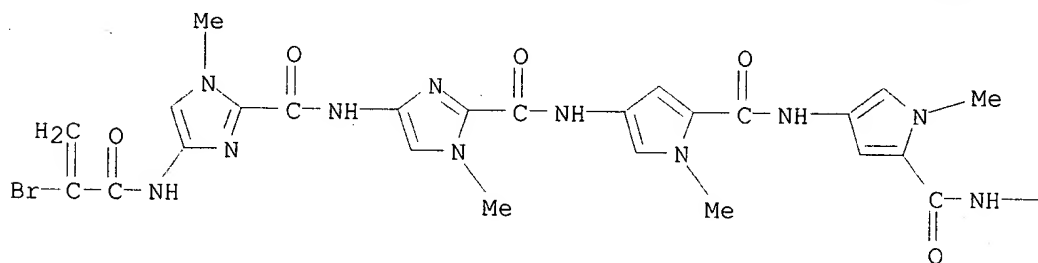
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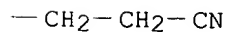
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yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-
imidazol-4-yl]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H29 Br N12 O5
SR CA
LC STN Files: CA, CAPLUS

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PAGE 1-B



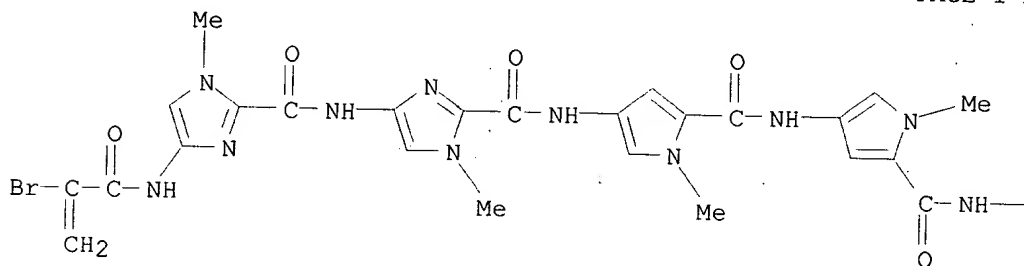
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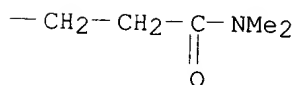
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L3 ANSWER 42 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-99-2 REGISTRY
CN 1H-Imidazole-2-carboxamide, 4-[(2-bromo-1-oxo-2-propenyl)amino]-N-[2-[[[5-[[[5-[[[3-(dimethylamino)-3-oxopropyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C30 H35 Br N12 O6
SR CA
LC STN Files: CA, CAPLUS

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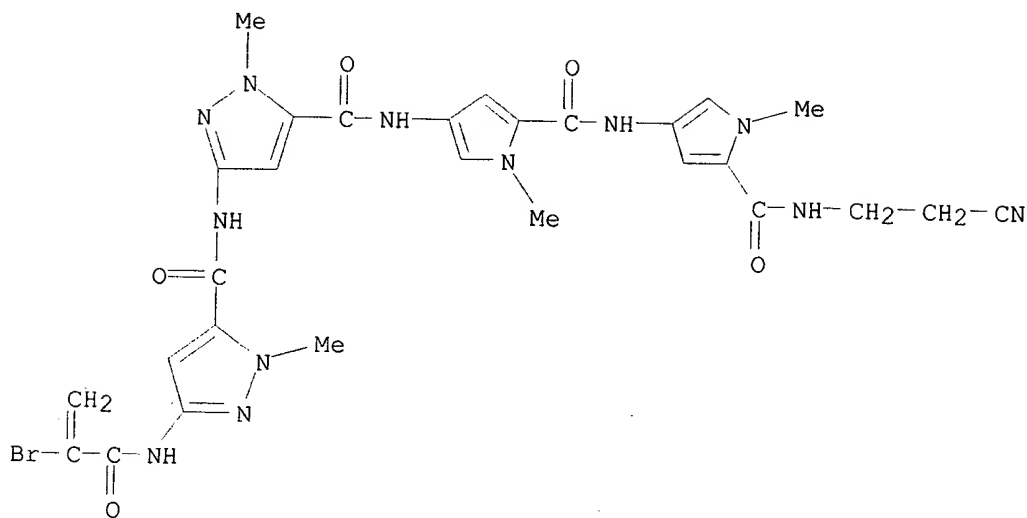
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 45 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-96-9 REGISTRY
CN 1H-Pyrazole-5-carboxamide, 3-[(2-bromo-1-oxo-2-propenyl)amino]-N-[5-[[[5-[[[5-[[[2-cyanoethyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrazol-3-yl]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD

MF C28 H29 Br N12 O5
 SR CA
 LC STN Files: CA, CAPLUS



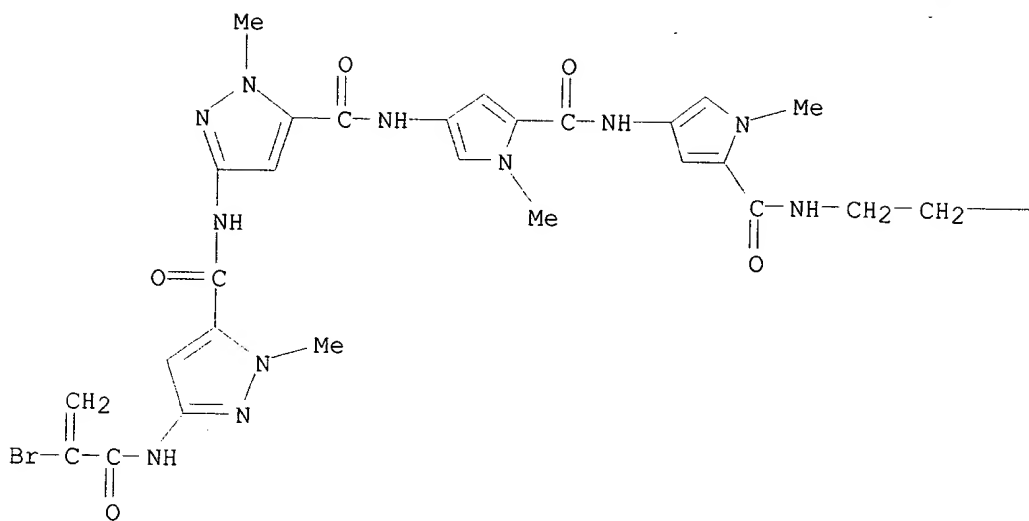
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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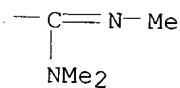
REFERENCE 1: 131:257879

L3 ANSWER 50 OF 97 REGISTRY COPYRIGHT 2001 ACS
 RN 245045-90-3 REGISTRY
 CN 1H-Pyrazole-5-carboxamide, 3-[(2-bromo-1-oxo-2-propenyl)amino]-N-[5-[[[5-[[[5-[[[3-(dimethylamino)-3-(methylimino)propyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrazol-3-yl]-1-methyl- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C31 H38 Br N13 O5
 SR CA
 LC STN Files: CA, CAPLUS

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PAGE 1-B



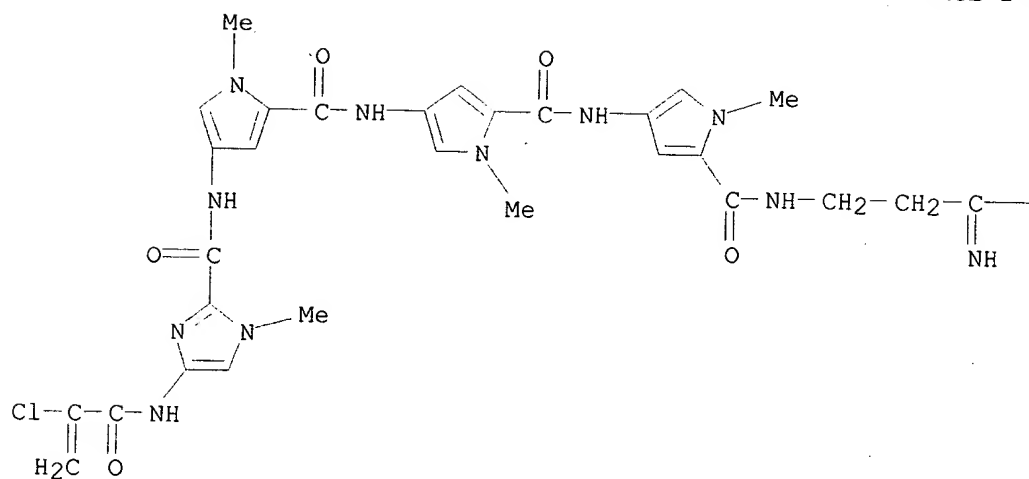
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 55 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-85-6 REGISTRY
CN 1H-Imidazole-2-carboxamide, 4-[(2-chloro-1-oxo-2-propenyl)amino]-N-[5-[[[5-[[[5-[[[3-imino-3-(methoxyamino)propyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C30 H35 Cl N12 O6
SR CA
LC STN Files: CA, CAPLUS

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PAGE 1-B

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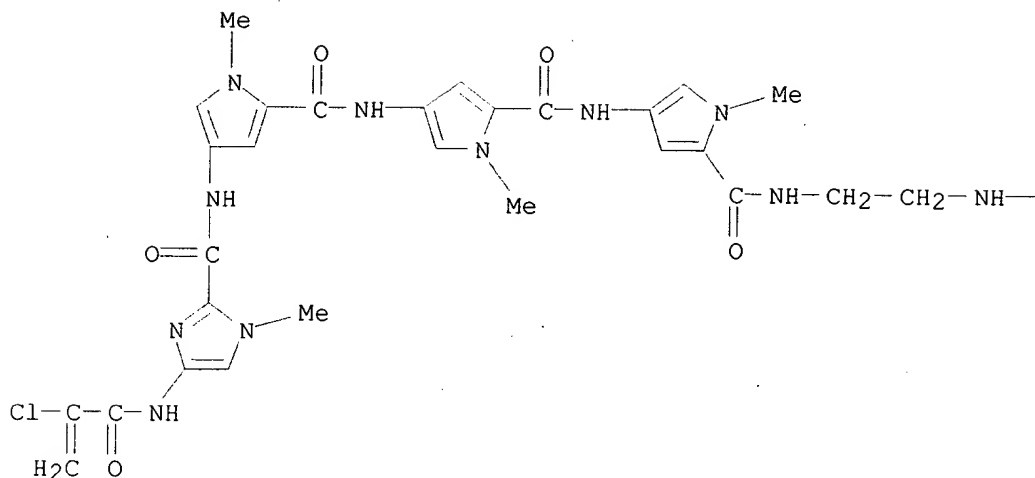
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

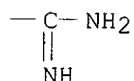
REFERENCE 1: 131:257879

L3 ANSWER 60 OF 97· REGISTRY COPYRIGHT 2001 ACS
RN 245045-80-1 REGISTRY
CN 1H-Imidazole-2-carboxamide, N-[5-[[[5-[[[5-[[[2-
[(aminoiminomethyl)amino]ethyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-
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pyrrol-3-yl]-4-[(2-chloro-1-oxo-2-propenyl)amino]-1-methyl- (9CI) (CA
INDEX NAME)
FS 3D CONCORD
MF C29 H34 Cl N13 O5
SR CA
LC STN Files: CA, CAPLUS

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PAGE 1-B



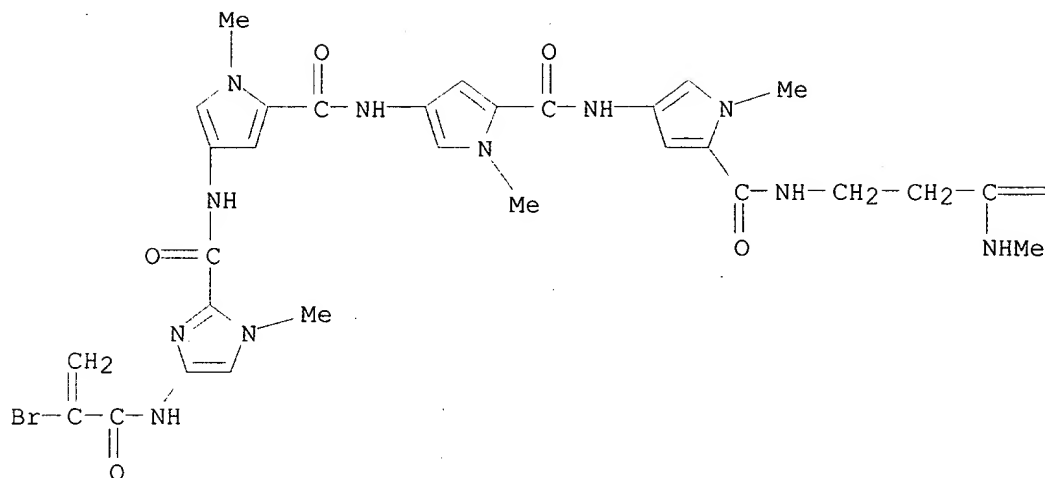
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: '131:257879

L3 ANSWER 65 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-74-3 REGISTRY
CN 1H-Imidazole-2-carboxamide, 4-[(2-bromo-1-oxo-2-propenyl)amino]-1-methyl-N-
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FS 3D CONCORD
MF C31 H37 Br N12 O5
SR CA
LC STN Files: CA, CAPLUS

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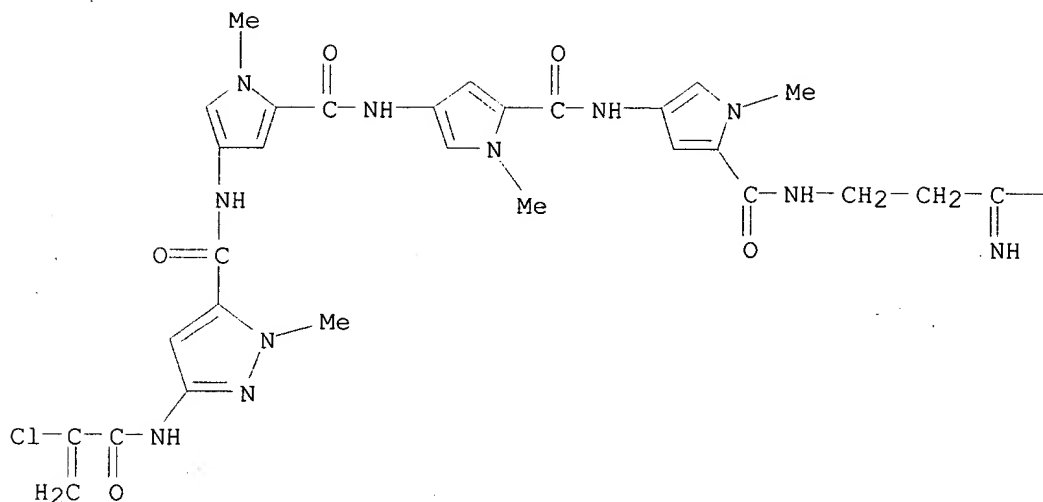
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 70 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-69-6 REGISTRY
CN 1H-Pyrazole-5-carboxamide, 3-[(2-chloro-1-oxo-2-propenyl)amino]-N-[5-[[[5-[[[5-[[[3-imino-3-(methoxyamino)propyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C30 H35 Cl N12 O6
SR CA
LC STN Files: CA, CAPLUS



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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 75 OF 97 REGISTRY COPYRIGHT 2001 ACS

RN 245045-64-1 REGISTRY

CN 1H-Pyrazole-5-carboxamide, N-[5-[[[5-[[[2-
[(aminoiminomethyl) amino]ethyl]amino]carbonyl]-1-methyl-1H-pyrrol-3-
yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-
pyrrol-3-yl]-3-[(2-chloro-1-oxo-2-propenyl)amino]-1-methyl- (9CI) (CA
INDEX NAME)

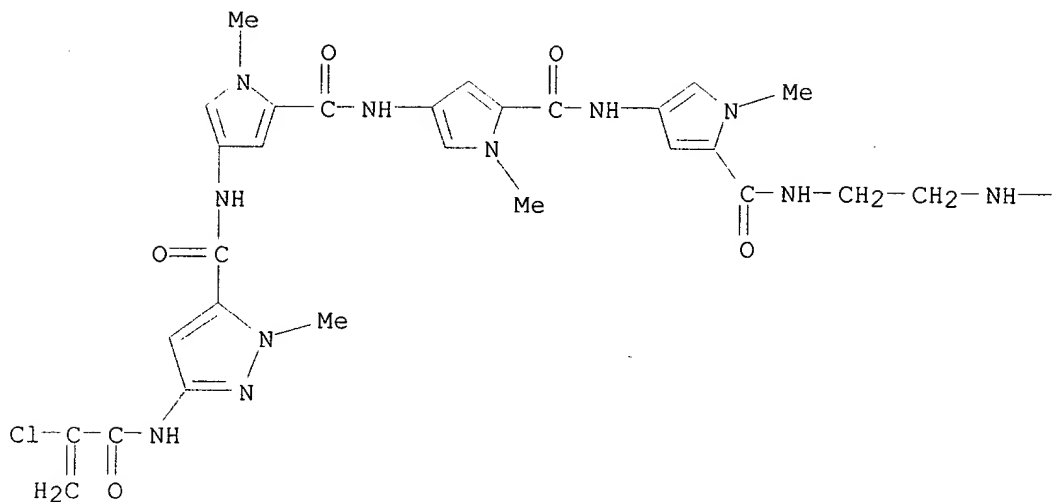
FS 3D CONCORD

MF C29 H34 C1 N13 O5

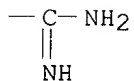
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LC STN Files: CA, CAPLUS

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PAGE 1-B



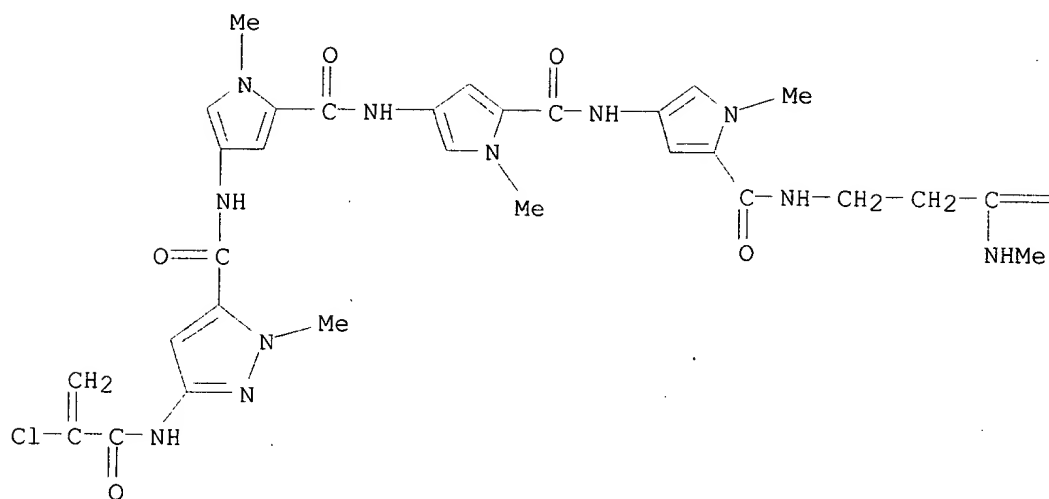
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 80 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 245045-59-4 REGISTRY
CN 1H-Pyrazole-5-carboxamide, 3-[(2-chloro-1-oxo-2-propenyl)amino]-1-methyl-N-
[1-methyl-5-[[[1-methyl-5-[[[1-methyl-5-[[[3-(methylamino)-3-
(methylimino)propyl]amino]carbonyl]-1H-pyrrol-3-yl]amino]carbonyl]-1H-
pyrrol-3-yl]amino]carbonyl]-1H-pyrrol-3-yl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C31 H37 Cl N12 O5
SR CA
LC STN Files: CA, CAPLUS

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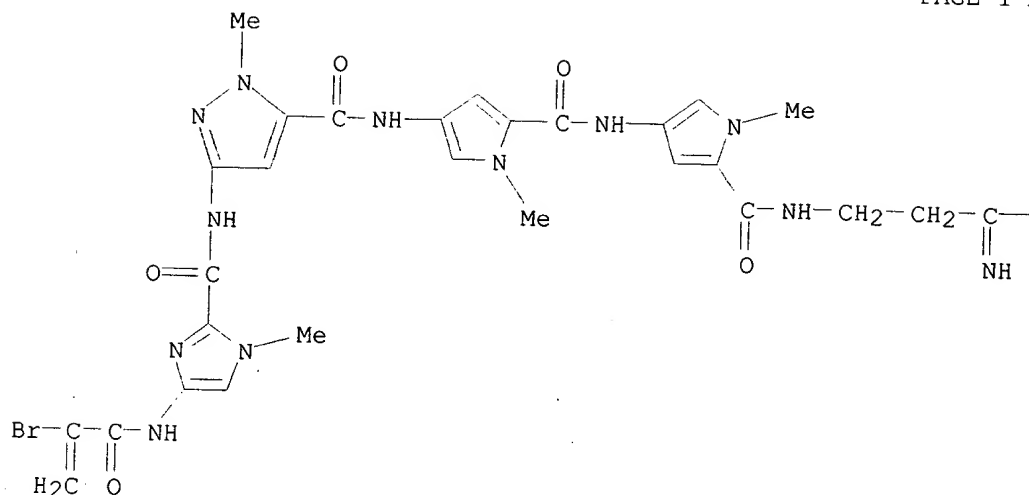
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:257879

L3 ANSWER 85 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 177410-01-4 REGISTRY
CN 1H-Pyrazole-5-carboxamide, N-[5-[[[5-[[[3-amino-3-
iminopropyl)amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-
methyl-1H-pyrrol-3-yl]-3-[[[4-[(2-bromo-1-oxo-2-propenyl)amino]-1-methyl-
1H-imidazol-2-yl]carbonyl]amino]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H32 Br N13 O5
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

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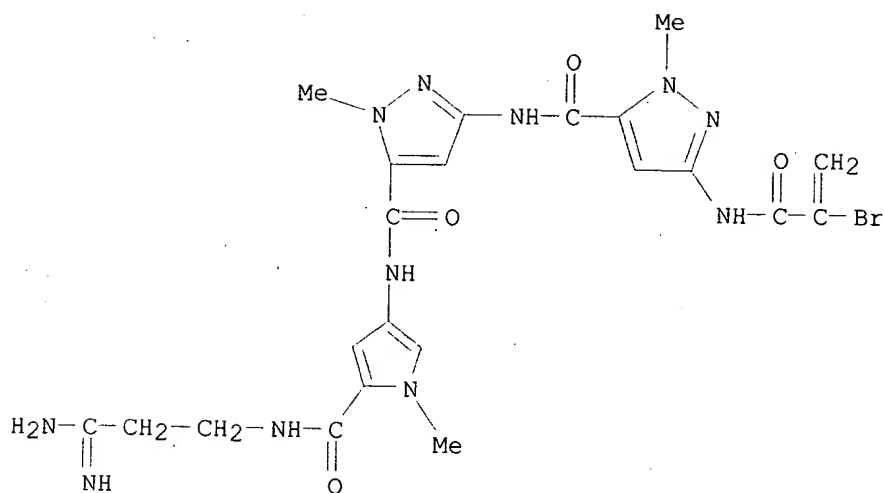
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:10484

L3 ANSWER 86 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 177409-99-3 REGISTRY
CN 1H-Pyrazole-5-carboxamide, N-[5-[[[5-[[[3-amino-3-
iminopropyl)amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-
methyl-1H-pyrazol-3-yl]-3-[(2-bromo-1-oxo-2-propenyl)amino]-1-methyl-
(9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C22 H26 Br N11 O4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

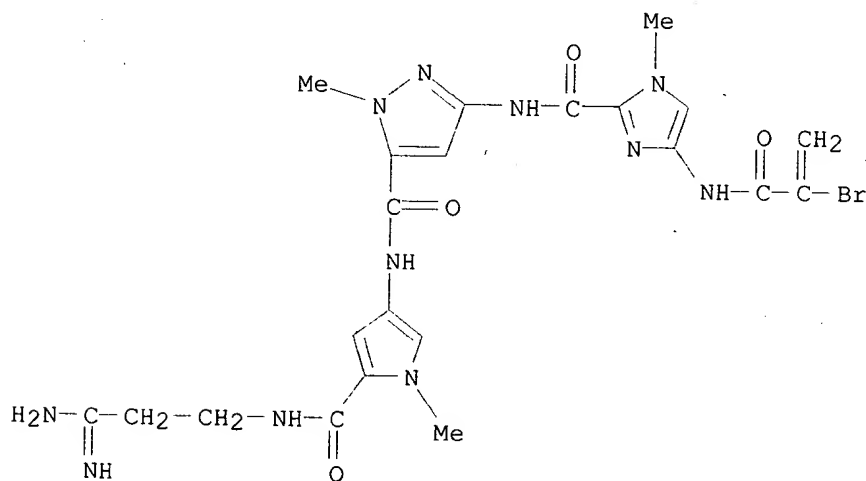


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:10484

L3 ANSWER 90 OF 97 REGISTRY COPYRIGHT 2001 ACS
RN 177409-84-6 REGISTRY
CN 1H-Pyrazole-5-carboxamide, N-[5-[[[(3-amino-3-iminopropyl)amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-3-[[[4-[(2-bromo-1-oxo-2-propenyl)amino]-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C22 H26 Br N11 O4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:10484

L3 ANSWER 95 OF 97 REGISTRY COPYRIGHT 2001 ACS

RN 177409-55-1 REGISTRY

CN 1H-Pyrazole-5-carboxamide, N-[5-[[[5-[[[3-amino-3-
iminopropyl)amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-
methyl-1H-pyrrol-3-yl]amino]carbonyl]-1-methyl-1H-pyrrol-3-yl]-3-[(2-bromo-
1-oxo-2-propenyl)amino]-1-methyl-, monohydrochloride (9CI) (CA INDEX
NAME)

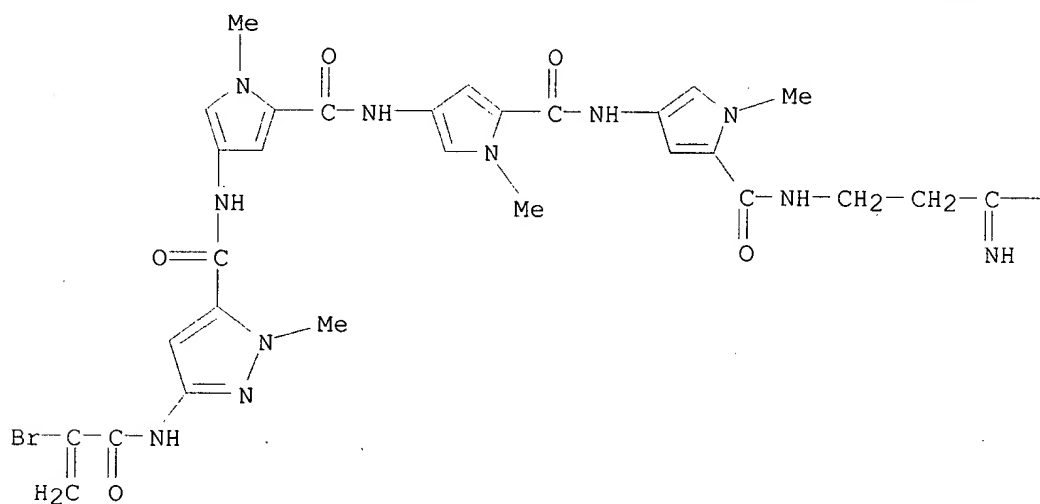
MF C29 H33 Br N12 O5 . C1 H

SR CA

LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

CRN (177409-88-0)

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4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:232356

REFERENCE 2: 131:257879

REFERENCE 3: 125:143280

REFERENCE 4: 125:10484

L3 ANSWER 97 OF 97 REGISTRY COPYRIGHT 2001 ACS

RN 142482-49-3 REGISTRY

CN 2-Butenediamide, N,N'-bis[2-[[[2-[[[3-cyanopropyl)amino]carbonyl]-1-methyl-1H-imidazol-4-yl]amino]carbonyl]-1-methyl-1H-imidazol-4-yl]-, (E)- (9CI)
(CA INDEX NAME)

FS STEREOSEARCH

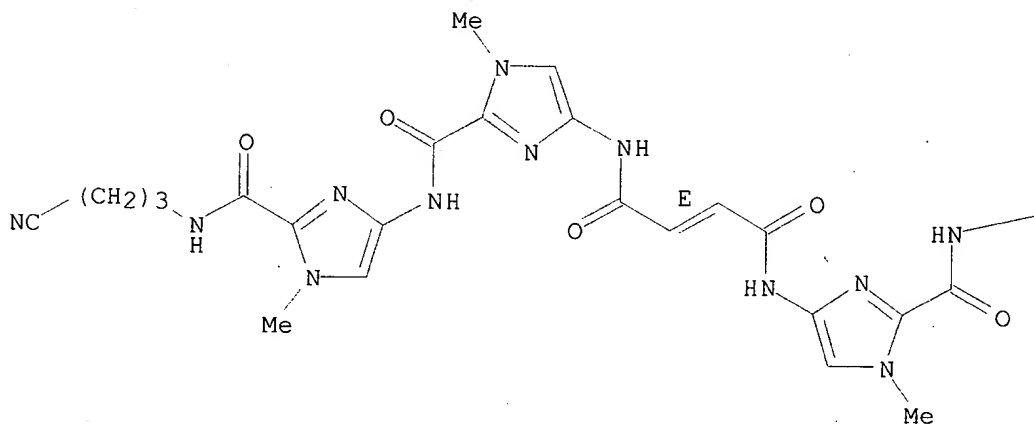
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SR CA

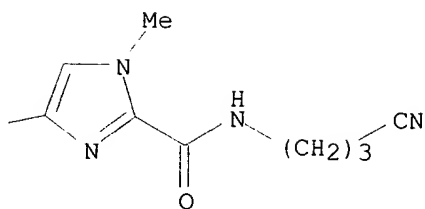
LC STN Files: CA, CAPLUS

Double bond geometry as shown.

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Russel 09_623506

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:112029